BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of the Application of)) HAWAIIAN ELECTRIC COMPANY, INC.)) For Approval to Commit Funds) in Excess of $500,000 for Project) Y00027 Mokuone Substation:) P0000563 - Mokuone 46/11.5 kV) Substation, P0000562 - 46 kV and) 11.5 kV Lines.))	DOCKET NO. 02-0142

DECISION AND ORDER NO. 19915

Filed Dec. 18, 2002

At 11:30 o'clock A.M.

Karen Higashi

Chief Clerk of the Commission

ATTEST: A True Copy
KAREN HIGASHI
Chief Clerk, Public Utilities
Commission, State of Hawaii.

K. Higashi

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In the Matter of the Application of)) HAWAIIAN ELECTRIC COMPANY, INC.)) For Approval to Commit Funds) in Excess of $500,000 for Project) Y00027 Mokuone Substation:) P0000563 - Mokuone 46/11.5 kV) Substation, P0000562 - 46 kV and) 11.5 kV Lines.))	Docket No. 02-0142 Decision and Order No. 19915

DECISION AND ORDER

I.

By an application filed on June 3, 2002, HAWAIIAN ELECTRIC COMPANY, INC. (HECO) requests commission approval to undertake and complete the proposed Project Y00027, involving the Mokuone Substation (proposed project). In particular, HECO requests: (1) commission approval to commit approximately $2,031,804 for: (a) Component P0000563 - Mokuone 46/11.5 kilovolt (kV) Substation and (b) Component P0000562 - 46 kV and 11.5 kV lines, in accordance with paragraph 2.3.g.2 of the commission's General Order No. 7, Standards of Electric Utility Service in the State of Hawaii (General Order No. 7); and (2) a favorable commission determination that the 46kV subtransmission lines be constructed above or below the surface of the ground, pursuant to Hawaii Revised Statutes (HRS) § 269-27.6.

Copies of the application were served on the Department of Commerce and Consumer Affairs, Division of Consumer Advocacy (Consumer Advocate). On September 6, 2002, HECO responded to the Consumer Advocate's information requests. By position statement filed on October 4, 2002[1], the Consumer Advocate stated that it does not object to our approval of the instant application.

II.

A.

HECO states that the proposed project is necessary because the projected load growth from the City and County of Honolulu's (City's) Sand Island Waste Water Treatment Plant (SI-WWTP) expansion plans are expected to exceed the capacity of the presently used 11.5 kV distribution and transformer under several emergency conditions in 2003.

Presently, HECO provides electrical service to the commercial and industrial businesses on Sand Island by two 11.5 kV distribution circuits from two 46-11.5 kV, 10 MVA transformers at the existing Sand Island Substation. HECO conducted a "Mokuone 46-11.5 kV Substation" study (study),

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[1]By letter filed on August 26, 2002, HECO requested an extension of the time by which the commission must issue its written decision in this docket from September 1, 2002 to October 4, 2002. By Order No. 19547, filed on August 30, 2002, the commission suspended the triggering of the 90-day automatic approval provision, in order to allow the Consumer Advocate and the commission additional time to complete their respective reviews of HECO's proposed project.

which shows that with the addition of the SI-WWTP expansion load in 2003, the largest overloads are likely to occur upon the loss of either the Sand Island #1 circuit or transformer, or the Sand Island #2 circuit or transformer.

HECO concluded that the most effective means to solve the overload conditions and provide additional substation capacity to accommodate future load growth on Sand Island is to construct a new system substation and to install additional transformer and circuit capacity on Sand Island by completing the proposed project.

After reviewing the study, HECO determined that the proposed project should be completed by July 2003 to serve the first expansion load of the SI-WWTP. The City informed HECO that Initial Test Power for the Sand Island Waste Water Treatment - Disinfection Facilities Project (Disinfection Facility) is required by July 1, 2003 and permanent power is required by December 1, 2003, which in turn requires that HECO install the substation and lines by October 1, 2003.[2]

B.

The proposed project will cost approximately $2,031,804 and would involve: (1) the construction of a new system substation, including the installation initially of one new

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[2]HECO's application initially indicated that the City requested a completion date of May 2003 for testing of its new facilities. However, HECO amended the service date for the Mokuone Substation in a letter to the commission dated October 7, 2002.

transformer and related electrical equipment; (2) 46kV overhead and underground line work; and (3) 11.5kV overhead and underground line work in order to accommodate the City's Disinfection Facility.

Mokuone Substation

The new system substation (Mokuone Substation) will be located on the same side of the road as, and just beyond, the City's SI-WWTP. The property on which the substation will be built is currently owned by the State Department of Land and Natural Resources, and is leased to the City.[3] HECO stated that it anticipates that the rent for the property will be a nominal amount, possibly $1.00.

HECO intends to construct a new system substation by:

1. Constructing: (A) a concrete pad for the transformer; (B) a concrete pad for the switchgear; (C) a concrete pad for the battery bank; (D) an asphalt concrete driveway; and (E) an 8-foot high galvanized chain link fence, which will surround the substation (a ground grid will be buried

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[3]In its response to CA-IR-6a, HECO stated:

> The City, through its Director of the Design and Construction Department, has agreed to grant HECO an easement for the substation and access. The easement document has been drafted and is being reviewed by the City's Corporation Counsel. Once approved, the easement will be forwarded to the City Counsel for approval. HECO does not have a copy of the draft substation easement that was forwarded to the City's Corporation Counsel for review. A copy will be available, and will be provided to the Commission and the Consumer Advocate, after the City Council approves the granting of the easement, which is estimated to take place in late-September, 2002.

one-foot deep and covered with 6-inch thick rockfill).

2. Installing: (A) one 46-11.5 kV, 10 MVA, low-sound transformer with two circuit radial switchgear; (B) two 46 kV 800 amp group operated disconnect switches; (C) one 48 volt DC battery bank; (D) six lightning arrestors; (E) related equipment; (F) approximately 100-feet of four- to five-inch ducts, and (G) a handhole, foundations and steel structures to support disconnect switches, insulators, and lightning arrestors.

46 kV Overhead and Underground Lines

The proposed 46 kV work involves the extension of the Iwilei #1 and Iwilei #2 46 kV circuits from the existing Sand Island Substation to serve the proposed Mokuone Substation. This work will involve:

1. Extending the two 46 kV circuits overhead from the existing Sand Island Substation to the proposed Mokuone Substation by approximately 8,600 circuit feet.

   The Iwilei #1 and Iwilei #2 46 kV circuits will be located on the mauka and makai sides of Sand Island Parkway, respectively. The proposed 46 kV circuits will overbuild the existing or proposed 11.5 kV overhead circuits on either side of Sand Island Parkway and will follow the same alignment as the existing polelines.

2. Replacing the existing 55-foot wood poles with 65-foot wood poles to accommodate both the new 46 kV circuits and the existing or proposed 11.5 kV circuits.

3. Installing approximately 800 circuit feet of line that fronts the SI-WWTP property line in the existing underground duct system.

4. Installing approximately: (A) 47 65-foot poles; (B) 34 anchors; (C) 8,600 circuit feet of three-phase 336.4 KCM all aluminum alloy 46 kV conductors; and (D) two 46 kV

800 amp group operated switches for the overhead construction.

5. Installing approximately: (A) 100 feet of four- to five-inch ducts; (B) two 46 kV risers; and (C) 800 circuit feet of 3-1c 750 KCM polyethylene jacketed 46 kV cable and #2 bare copper neutral conductor for the underground construction.

11.5 kV Overhead and Underground Lines

The proposed 11.5 kV work will involve:

1. Installing two 11.5 kV circuits from the proposed Mokuone Substation.

   One 11.5 kV circuit (Mokuone #1) will be extended overhead by approximately 800 circuit feet on the makai side of Sand Island Parkway from the proposed Mokuone Substation to the SI-WWTP property. From there, Mokuone #1 will be extended underground by approximately 50 circuit feet and tapped into the existing cables serving the SI-WWTP Disinfection Facility.

   The second 11.5 kV circuit (Mokuone #2) will be extended underground by approximately 100 circuit feet (and across Sand Island Parkway) and tapped into the existing 11.5 kV overhead line on the mauka side of Sand Island Parkway.

2. Relocating the existing 11.5 kV risers from the existing handhole fronting the Sand Island Substation to the two proposed 46 kV poles from which the Sand Island #1 and Sand Island #2 11.5 kV circuits will transition to an overhead configuration.

3. Relocating approximately 900 circuit feet of the existing Sand Island #1 11.5 kV circuit from the makai side of Sand Island Parkway to the mauka side, in the vicinity of the Sand Island Substation. HECO asserts that the across-the-street relocation will be undertaken to improve the reliability of service and to reduce the heights of the poles required on the makai side of Sand Island Parkway.

4. Installing approximately: (A) 1,700 circuit feet of three-phase 336.4 KCM all aluminum alloy 12 kV conductors; and (B) one 12 kV 600 amp group operated switch for the overhead construction.

5. Installing approximately: (A) 300 feet of two to five-inch ducts; (B) five 11.5 kV risers; and (C) 550 circuit feet of 1000 KCM polyethylene jacketed cable and 350 KCM bare copper neutral conductor for the underground construction.

C.

The Consumer Advocate states that based upon the information provided by HECO, it appears that the proposed project is necessary and reasonable to: (1) mitigate the current overload conditions on the Sand Island distribution system and (2) meet the planned load expansion of the SI-WWTP and the future load growth in the Sand Island area.

The study indicated that the present 11.5 kV distribution and circuit transformer capacity is expected to be exceeded in 2003 due to a projected load growth in the SI-WWTP expansion projection. However, the Consumer Advocate notes that the current load may be exceeding the distribution circuit capacity at this time, as well. As a result, the Consumer Advocate states that the proposed project "is needed to resolve the current overload conditions on the Sand Island distribution system."

In addition, the Consumer Advocate expects that the proposed project will serve the projected load growth due to the expansion of the sewer treatment plant and the growth from other customers in the Sand Island area. HECO estimates that the

increase in the load at the SI-WWTP will be 10 MVA by the year 2005, with four MVA more projected for the 2010 to 2015 timeframe. In addition, HECO projects that the ultimate load in the Sand Island area could increase from the current level of approximately 10 MVA to 45 to 50 MVA, which includes 20 to 25 MVA from potential commercial development of industrial or undeveloped areas on Sand Island.

In light of the projected increases in load, the Consumer Advocate states that the proposed project appears to be necessary and reasonable at this time.

Lastly, the Consumer Advocate recognizes that the proposed project's total costs are estimates, and notes that it has remaining questions regarding the calculations made to determine the projected amount of Allowance for Funds Used During Construction and On-Cost for the proposed project. Therefore, upon the filing of the proposed project's final cost report, the Consumer Advocate proposes to "review and better quantify the reasonableness of the actual costs incurred to complete the project and pursue issues, if any, regarding the reasonableness of the instant project's actual costs in HECO's next rate proceeding."

D.

Upon careful review, the commission finds that the proposed project is reasonable and consistent with the public interest. The proposed project will: (1) mitigate the current overload conditions on the Sand Island distribution system; and

(2) meet the planned load expansion of the SI-WWTP and the future load growth in the Sand Island area.

E.

As stated above, HECO plans to construct most of the proposed 46 kV lines from the existing Sand Island Substation to the proposed Mokuone Substation above ground, due to cost considerations. It also plans to locate approximately 800 circuit feet of 46 kV line underground at the SI-WWTP property line.

Above Ground Lines

The commission finds that the extension of the subject 46 kV lines above ground are reasonable and consistent with HRS § 269-27.6(a). Upon review of the associated costs of approximately $779,700 for overhead and approximately $2,778,000 for underground, the commission is not convinced that a benefit exists that outweighs the costs of placing all of the subject 46 kV lines underground.

In addition, the commission is unaware of any government policy either requiring the underground placement or committal of funds for the costs of underground line placement. Furthermore, no governmental agency or other party has indicated a willingness to pay for the total underground placement of the

lines.[4] Lastly, the Consumer Advocate does not oppose the approval of the application, noting that the "benefits of undergrounding the 46 kV line extensions do not appear to outweigh the additional costs that would be incurred to place the line underground." Also, it appears, based upon the photographs of the project site provided by HECO, that "the visual impact of the proposed 46 kV line will be minimal."

Accordingly, the commission concludes that the extension of the subject 46 kV lines, above ground, should be approved.

Underground Lines

The City informed HECO that it needed the approximately 800 circuit feet of proposed 46 kV line fronting its Administrative/Control building to be placed underground, to prevent the proposed 46 kV line from interfering with the City's microwave system. The City also indicated that taller poles would not solve the interference problem, and would prevent effective communications with its Kailua WWTP. After a review of the record relating to the placement of the subject 46 kV line underground, the commission also finds that the extension of the

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[4]HECO submitted copies of letters from Rae M. Loui, Director of the City's Department of Design and Construction, and Glenn M. Yasui, Administrator of the State of Hawaii Department of Transportation, Highways Division, both of whom indicated that their departments are unwilling to fund the difference between the base cost and the all-underground cost of the 46 kV line placement.

lines underground are reasonable and consistent with HRS § 27.6(a).

In light of the above, the commission finds that in this instance, the benefit of ensuring the efficacy of the City's microwave system outweighs the cost of placing the electric transmission system underground. Despite such benefits, however, no agency or third party has indicated a willingness to pay for the underground placement of the subject 46 kV line. Furthermore, there does not appear to be any government policy either requiring the underground placement or committal of funds for the cost of the underground line placement. Finally, the Consumer Advocate after considering the reasoning behind the request for the undergrounding and the availability of the City's spare ducts in which HECO will place the subject 46 kV line, states that it will not oppose the undergrounding of this short section of line.

III.

THE COMMISSION ORDERS:

1. HECO's application, filed on June 3, 2002, to expend an estimated $2,031,804 for Project Y00027 Mokuone Substation, is approved; provided that no part of the project may be included in HECO's rate base unless and until the project is in fact installed, and is used and useful for utility purposes.

2. HECO's request to extend the 46 kV transmission lines, above ground, is approved.

3. HECO's request to extend the 46 kV transmission lines, underground, is approved.

4. HECO shall report within 60 days of the project's commercial operation, with an explanation of any deviation of 10 per cent or more in the projects costs from that estimated in the application. HECO's failure to submit this report will constitute cause to limit the cost of the project, for ratemaking purposes, to that estimated in the application.

DONE at Honolulu, Hawaii this 18th day of December, 2002.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
Wayne H. Kimura, Chairman

By _____
Janet E. Kawelo, Commissioner

By (RECUSED)
Gregg J. Kinkley, Commissioner

APPROVED AS TO FORM:

_____
Catherine P. Awakuni
Commission Counsel

02-0142.eh

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 19915 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
P. O. Box 541
Honolulu, HI 96809

WILLIAM A. BONNET
VICE PRESIDENT - GOVERNMENT AND COMMUNITY AFFAIRS
HAWAIIAN ELECTRIC COMPANY, INC.
P. O. Box 2750
Honolulu, HI 96840-0001

LORIE ANN NAGATA
TREASURER
HAWAIIAN ELECTRIC COMPANY, INC.
P. O. Box 2750
Honolulu, HI 96840-0001

Karen Higashi

DATED: December 18, 2002